ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

RULE 1149 -- STORAGE TANK CLEANING AND DEGASSING
(Adopted: 12/04/87; Amended: 04/01/88; Amended: 04/14/95)

(a) Applicability

This rule applies to the cleaning and degassing of a stationary tank, reservoir, or other container storing or last used to store Volatile Organic Compounds.

(b) Definitions

(1) CLEANING is the process of washing or rinsing a stationary tank, reservoir, or other container or removing vapor, sludge, or rinsing liquid from a stationary tank, reservoir, or other container.

(2) DEGASSING is the process of removing organic gases from a stationary tank, reservoir, or other container.

(3) EXEMPT COMPOUNDS are defined in Rule 102 -- Definition Of Terms.

(4) LIQUID BALANCING is a process in which an organic liquid having a Reid vapor pressure subject to this rule is replaced in the storage tank by an organic liquid with a Reid vapor pressure that is not subject to this rule.

(5) LIQUID LEAK is the dripping of liquid volatile organic compounds at the rate of more than three drops per minute.

(6) UNDERGROUND STORAGE TANK means any one or combination of tanks, including pipes connected thereto, which is used for the storage of organic liquid, which is more than 50% by tank volume beneath the surface of the ground.

(7) VAPOR LEAK is the detection of gaseous volatile organic compounds in excess of 10,000 ppmv. Measurements of gaseous volatile organic compound concentrations shall be conducted according to EPA Method 21, using an appropriate analyzer calibrated with methane at a distance of 1 cm (0.4 inch) or less from the source.

(8) VOLATILE ORGANIC COMPOUND (VOC) is any volatile compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds.

(c) Requirements

(1) Above-ground stationary tank

Where a tank, reservoir, or container shall be opened to the atmosphere, a person shall not allow cleaning or degassing of any above-ground stationary tank, reservoir, or other container of more than 150,000 liters (39,630 gallons) capacity containing any organic liquid having a Reid vapor pressure of more than 134 mm Hg (2.6 psi) or between 75,000 liters (19,815 gallons) and 150,000 liters (39,630 gallons) capacity storing any organic liquid having Reid vapor pressure of 202 mm Hg (3.9 psi) or greater, unless the emissions are controlled by one of the following:

(A) Liquid balancing which results in a vapor pressure less than that specified in subparagraph (c)(1) above.

(B) Negative pressure displacement and subsequent incineration in a manner approved by the Executive Officer or designee.

(C) A refrigerated condenser which reduces the vapor temperature to -100^{O}F or lower, and capable of handling the displaced vapors.

(D) Any other control method or control equipment that has been approved by the Executive Officer or designee to be at least 90 percent efficient in reducing VOC emissions.

(2) Underground storage tank

A person shall not allow cleaning or degassing of any underground storage tank with a capacity greater than 500 gallons storing or last used to store liquids with a Reid vapor pressure greater than 202 mm Hg (3.9 psi) unless the VOC emissions are controlled by a device that ~~is~~ has been approved by the Executive Officer or designee to be at least 90 percent efficient. For the purposes of this rule, any underground storage tank that is removed from the ground and is to be later cleaned above ground, shall still be considered an underground tank. Any subsequent tank cleaning or degassing, even though the tank is above ground, shall meet the applicable requirements of this rule for underground storage tanks.

(3) Equipment used in the cleaning or degassing process shall be free of liquid and vapor leaks. This includes, but is not limited to: the degassing equipment, vacuum truck, pumps, hoses, and connections.

(4) Except for emergency cases, the operator shall notify the Executive Officer or designee by telephone during normal business hours and receive authorization at least one (1) day and no more than ten (10) days prior to the start of the emptying operation for the purpose of cleaning or degassing any storage tank subject to this rule.

(5) Degassing of any container subject to the provisions of subparagraph (c)(1) and (c)(2) of this rule shall be done in the following manner:

(A) Air Displacement - The displaced gas shall remain vented to the refrigerated vapor condenser, or equivalent control system, for a length of time determined by the following relationship:

$$t = \frac{2.3\ V}{Q}$$

Where:

t = time (hrs)
V = volume of the gas to be freed (ft^3)
Q = flow rate through condenser (ft^3/hr); or

(B) Liquid Displacement - The displaced gas shall remain vented to the control equipment until 90 percent of the vapor volume in the tank is displaced by an equal volume of the liquid into the control equipment.

(6) When refrigeration is used, the equipment operator shall monitor the condenser temperature and the flow rate into the condenser. Any interruption of service of the equipment must be documented.

(7) When carbon adsorption is used:

(A) An organic vapor monitor/analyzer approved by the Executive Officer or designee shall be installed and operated at any exit of the carbon adsorption device to determine the concentration of hydrocarbon discharged to the atmosphere.

(B) A person shall not regenerate any spent carbon from a carbon adsorbed unless the regeneration is conducted using equipment operating under a valid permit to operate issued by the Executive Officer or designee.

(8) The information obtained in subparagraphs (c)(4), (c)(5), (c)(6), and (c)(7)(A) of the rule shall be recorded and kept for two (2) years and shall be made available to the Executive Officer or designee upon request.

(9) Any condensed liquids shall be handled or disposed of in a manner previously approved by the Executive Officer or designee.

(10) A person engaged in the off-site cleaning or degassing of stationary storage tanks shall complete the cleaning and degassing operations in accordance with the requirements of subparagraph (c)(2) within 14 days of receiving the tanks.

(11) Records shall be maintained for two (2) years and be made available to the Executive Officer or designee upon request. The records shall include, but are not limited to:

(A) Tank owner and address;

(B) Tank degassing operator's name, permit number, contact person, and telephone number;

(C) Tank capacity and materials stored;

(D) The flow rate and VOC concentration vented to the degassing equipment;

(E) The control efficiency of the degassing equipment; and

(F) The total amount of VOC processed in the degassing equipment;

(d) Test Methods

For the purpose of this rule, the following test methods shall be used.

(1) Control equipment efficiency in reducing VOC emissions is determined by USEPA Test Method 25, 25A, or SCAQMD Method 25.1 (Determination of Total Gaseous Non-Methane Organic Emissions as Carbon) as applicable.

(2) Reid vapor pressure is determined by ASTM D 323-90.

(e) Exemptions

(1) The provisions of subparagraph (c)(4) shall not apply to emergency tank removals or repairs performed in an emergency as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized agency officer. Whenever possible, the Executive Officer or designee shall be notified prior to commencing, and in no event in writing no later than 48 hours following, any emergency tank cleaning or degassing. Written notification shall include written emergency declaration from the authorized officer.

(2) The provisions of this rule shall not apply to underground tanks specified as exemptions in the Health and Safety Code Section 25281.

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